Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte DOUGLAS N. CURRY and DONALD J. CURRY

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Appeal No. 1998-1521
Application No. 08/584,990

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ON BRIEF

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Before HAIRSTON, KRASS, and BARRETT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claim 7, the only claim pending in the application.

The invention is directed to high precision printing using a laser light source and a photoreceptive surface. In

particular, two-dimensional interpolation is employed so that the light spot produced on the photoreceptor is adjustable with subpixel precision in both the direction of the laser beam sweep and the direction in which the photoreceptor is rotated.

Claim 7 is reproduced as follows:

An image processing system for two dimensional interpolation in a laser printer, comprising:

a photoreceptive surface;

a laser source having a modulatable intensity, the laser source positioned to direct a laser light spot against the photoreceptive surface;

an image data source for supplying a first raster and a second raster of image data, with both the first raster and the second raster of image data being a row of sample values;

a two dimensional interpolator connected to receive first and second rasters of image data from the image data source and determine both a resample value and associated two dimensional slope information for the resample value, with the resample value and associated two dimensional slope information used to control modulation of the laser source and its directed laser light spot, the two dimensional interpolator using a first sample value, a second sample value, a third sample value and a fourth sample value, with the first sample value and the second sample value being consecutive samples in the row of sample values from the first raster, and with the third sample value and the fourth sample value being consecutive samples in the row of sample values from the second raster.

The examiner relies on the following reference:

Femal et al. [Femal] 5,299,300 Mar. 29, 1994

Claim 7 stands rejected under 35 U.S.C. § 103 as unpatentable over Femal.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

The examiner contends that Femal teaches an image processing system for two dimensional interpolation. The examiner identifies Figure 1 of the reference as showing an image data source and the examiner points to column 6, line 46 to column 8, line 17 of Femal for a teaching of a two-dimensional interpolator. The examiner admits that Femal does not teach a photoreceptor and a modulatable laser light source, as claimed, but contends that Femal's display device 15 would have suggested to skilled artisans that any well

known type of display unit, such as a laser printer, may be used in the Femal system.

For their part, appellants contend that the artisan familiar with Femal's disclosure would not have been led to equate the image display device 15 with a high performance hyperacuity laser printer. Appellants contend that there is no suggestion in Femal of the use of an alternative display device and no reference to the use of lasers for directing light spots against a photoreceptive surface. Accordingly, in appellants' view, the examiner has failed to make out a prima facie case of obviousness.

We reverse.

While appellants' argument appears weak to us in that they never explain why it would not have been obvious to substitute one type of display (laser printer) for another (CRT), contending only that there is no suggestion for making the substitution, we will, nevertheless, reverse the examiner's rejection.

The examiner contends that Femal's system and the instant claimed invention both disclose similar interpolation techniques and that the only difference between the two is in the type of display employed. Appellants do not deny that Femal uses a similar interpolation processing technique as the claimed invention, arguing the obviousness/nonobviousness of substituting a laser printer for the CRT display of Femal.

Based on only these arguments alone, we would hold for the examiner because the substitution of one type of display for another, in general, would appear to be an obvious modification which is not convincingly rebutted by appellants. However, appellants do argue, at page 3 of the brief, that Femal does not disclose the claimed photoreceptive surface or laser source "in conjunction with other elements of the claimed invention." While, normally, this would be so general an argument as to be an argument about only the photoreceptive surface or laser source, per se, our review of the claimed subject matter reveals a little more, i.e., there are other elements of the claimed invention which, when taken together with the claimed laser light source and photoreceptive

surface, do distinguish over that disclosed or suggested by Femal.

Claim 7 recites the photoreceptive surface and laser source, along with an image data source and a two dimensional interpolator for processing the image data. But the claim further recites that once the resample value and associated two dimensional slope information is obtained, this information is "used to control modulation of the laser source and its directed laser light spot." Thus, we do not have a situation here where the processing is the same in both Femal and the instant invention and the question is merely the kind of display (CRT or laser printer) to which the output is sent. Rather, the instant claimed subject matter is more specific. It sets forth a photoreceptive surface and a laser source and then determines certain information through processing in the interpolator and actually uses that information to relate back to the photoreceptive surface and laser source and control modulation of the laser source and its directed laser light spot upon the photoreceptive surface. Thus, the claimed processing is used to actually control the laser source. This

is much different from any type of control effected upon the CRT by Femal and there is absolutely no suggestion in Femal for the claimed control of the modulation of a laser source and its directed laser light spot upon a photoreceptive surface.

Accordingly, the examiner's rejection of claim 7 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON)
Administrative Patent Judge)
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) BOARD OF PATENT

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	)	INTERFERENCES
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